VERTICAL LOGISTICS

Introduction

Vertical Logistics is a research proposal that seeks to elide a diverse set of geometric vitalisms - most acutely, Benjamin Bratton's *stack poetics* with Peter Sloterdijk's *sphereology* - in opening out the architectural, linguistic, philosophical and sociological elements of the New Silk Road.

Joining Bratton's call for a 'new aesthetics' of the lived experience in an Eastern, Hemispherical stack, *Vertical Logistics* locates itself between the reflexive forensic practice of Forensic Architecture (FA), based at Goldsmiths, University of London and the projective design practice of the Strelka Institute.

Components

Vertical Logistics is subdivided into three components:

1. *Folding Cities* (a comparative and speculative literary essay on the science fiction novellas of Hao Jingfang's *Folding Beijing* and J.G. Ballard's *High-Rise*) To be Submitted on **24 April 2018**

2. *The Rotterdam Trial* (a collaborative initial experiment on geometricizing, documenting, and entering the speculative fabric of the New Silk Road as a future planetary hyperobject visible from space as a 'pulsing swarm of electromagnetic frequencies circling from Xi'an to Moscow to Rotterdam and back, a glowing, red swathe on Google Earth.' To be Submitted on **20 March 2018**

3. *Khorgos-Beijing Fieldwork* (a short documentary film + field notes expanding on the techniques and methods explored in Rotterdam to geometricize and document the spatial and social transformations the OBOR initiative is generating between Lanzhou New Area, Xinjiang Logistics Park, Khorgos Gateway and Dry Port, Western Europe - Western China International Transit Corridor (CAREC - 1b) and the Hong Kong - Shanghai - Beijing axis[1]. For this component, I am currently planning the feasibility/funding/logistics around this and have found two individuals with converging research interests driving the route in June/July (https://www.thenewsilkroadproject.com). Film to be curated and shown at a symposium in **September 2018**

Parameters

When we think of logistics, the horizontal often forms the guiding frame for movement. Yet, more imperceptibly, logistics is also a vertical project, one which 'rewrites and redivides the spaces of geopolitics in ways that are inclusive of aerial volumes, atmospheric envelopes and oceanic depths.' Logistics is also therefore a project that weighs vertically on its designs. The concrete flux (流泥) of logistics, we might argue, weighs as an agglomerate of matter, hard/soft power, media and frontier conditions parametricized into form. The New Silk Road is one such agglomerate, billed as the next logistical mega-structure, planetary in its scope and potential for political, economic and social design futures, OBOR forms a foamic hyperobject, a bubble machine generating stacks, spheres and *Folding Cities* of manifold weight, density, insulation and exposure.

As a broad, initial proposition then, *Vertical Logistics* is an attempt at stretching the parameters with which we conceptualise hyperobject logistical infra-structures. The questions it might pose encircle notions of the Stack, protocols, platforms, rules, logics, logistics, borders, zones, exclusions, inclusions, exceptions, futures, fictions, poeisis, promise, access, design, power and irony. In short, *Vertical Logistics* is a project for geometric vitalism and geopolitical volumetrism, grounded in the *FA* and *Visual Culture* department's charge to confront the contemporary through practice-based investigation and research. There are a number of collaborations I am therefore hoping to instigate this term with: Solveig's *Concrete Flux* Collective, the *Futures and Fictions* launch group, Bratton's *New Normal* Programme, Brett Neilson and Neil Rossiter's *Logistical Worlds* and Dariusz Wojcik's *Hong Kong as International Financial Centre* project. These will be sketched more fully in a later iteration however for the remainder of this proposal, I will map out an initial blueprint of the first C&N essay component, *Folding Cities,* and its architecture.

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[1] For more on this conceptual axis, I have attached a previous essay, Beybladal Beijing, below.

FOLDING CITIES

Invisible Planets is an anthology of contemporary science fiction, featuring the short stories of Chen Qiufan, Xia Jia, Ma Boyong, Hao Jingfang, Tang Fei, Cheng Jingbo and Liu Cixin. Editor and translator-in-chief, Ken Liu, opens the anthology with an Introduction: *China Dreams* (a play, he adds, on President Xi Jinping's promotion of the "Chinese Dream" as a slogan for China's development). Liu writes:

> China is going through a massive social, cultural and technological transformation involving more than a billion people of different ethnicities, cultures, classes, and ideological sympathies, and it is impossible for anyone - even people who are living through these upheavals - to claim to know the entire picture.

Liu's augur to the complexity of modern China reminded me on initial reading of Fredric Jameson's cognitive mapping project and began to place the short stories as 'allegorical structures' or design futures and fictions for a society in transition. This sense of folding out futures then continued at the back of the anthology with three short essays. The most pithy of the three is written by Chen Qiufan, in which he relays his conversation with Han Song, a science fiction writer from his mother and father's Maoist generation. Their conversation unfolds in the government auditorium hosting the Huadi Literary Awards they are both invitees of. The auditorium sits on the banks of the Pearl River, a short voyage across and in the profusion of reflected neon lights of an unsleeping Guangzhou, Chen writes:

> In the eyes of Han Song, a Chinese science fiction writer born in the 1960s, the Chinese born after 1978 belong to a 'Torn Generation'. Han Song's perspective is interesting. While he is a member of China's most powerful state-run news agency, Xinhua, he is also the author of extraordinary novels such as *Subway* and *Bullet Trains*. In these surrealist novels, the order of nature on speeding trains is subverted by events such as accelerated evolution, incest, cannibalism and so on. Critics have suggested that 'the world on the subway reflects a society's explosive transformation and is a metaphor for the reality of China's hyper-accelerated development.'

I have not yet been able to find English translations of Han's novels, however I imagined similar visual traces in Bong Joon Ho's *Snowpiercer* and Hao Jingfang's *Folding Beijing*. The former, a film based on a French sci-fi novella, unlocks its 'sociological imagination' on the structural conditions and effects of inequality through the allegorical structure, like Han Song's novels, of a speeding bullet train segmented spatially and temporally by cabin and correspondent class. The latter however, in Jingfang's *Folding Beijing,* unlocks a vertical imaginary which, aside the author's own story and its material historicity to the real and exploding/imploding fabric of Beijing current, opens the more compelling blueprint to a city's design future with Chinese characteristics. In its vertical logistique furthermore, creative comparison with a novella of its own vertical imaginary on a future London in J.G. Ballard's 1975 novella, might throw interesting relief between two urban fabrics that, though separated by four decades, exhibit similarities and frictions of exploding inequalities on a vertical stack column. The entry point here then becomes one that is finely attuned to where China's current transition find its architectural and morphological resonances, synonyms and differences with a post-war brutalist London. *Folding Cities* in this sense turns two fabrics on the edge of a hyperobject named OBOR, into strange volumetric opposition, not unlike Cobb's bending of the cityscape in *Inception,* or like that of Beszel and Ul Qoma in China Miéville's novel *The City and the City,* twin cities only

partially visible to one another even as they occupy the same location, each dependent on enforcing a willed ignorance of the other's presence, constantly policing one another's breaching.

Folding Beijing

Hao Jingfang's *Folding Beijing* imagines a Beijing whereby the city's residents are divided into three social classes who each live on a different physical surface of the city: *First Space*, *Second Space* and *Third Space*: the most populous, chaotic and dirty. The residents are also separated by time, and in each 48 hour cycle, the 50 million underclass labourers of Third Space are only allowed to be awake for eight hours at night. The story follows the travails of a Third Space, migrant interloper, Lao Dao, as he races to deliver a message to a woman in First Space on behalf of a suitor who has promised Lao 'one hundred thousand yuan on successful delivery, and two hundred thousand yuan, if he manages to bring back a reply.' For Lao we learn, the money is to support his daughter, Tang Tang, to go to a kindergarten, which offers music and dance lessons. Tangtang loves to dance. In a scene in which Lao has hidden in a bin for 24 hours to reach *Second Space* and has sought out Peng Li (an old man who has smuggled contraband across the dangerous vertical logistic five times (on the fifth: caught) in his single occupancy public housing unit) Lao frantically divulges: "Tangtang is going to be old enough for kindergarten in a year. I've run out of time."

> Lao Dao's research on kindergarten tuition had shocked him. For schools with decent reputations, the parents had to show up with their bedrolls to line up a couple of days before registration. The two parents had to take turns so that while one held their place in the line, the other could go to the bathroom or grab a bite to eat. Even after lining up for forty-plus hours, a place wasn't guaranteed. Those with enough money had already bought up most of the openings for their offspring, so the poorer parents had to endure the line, hoping to grab one of the few remaining spots.'

At this point, it is interesting to note the influences on the author of her time living in Beijing and working at the *China Research Development Foundation* making policy recommendations to the central government on China's macro-economy. In an interview, posted in Quartz, the interviewer asks Jingfang: "What social problem in Beijing strikes you the most?" She replies:

> 'The policy barriers to migrants. Migrants in Beijing don't enjoy the same social benefits as locals. Their kids don't go to the same schools with local kids. At times I'll visit migrant kids at schools that are especially designed for them. Their lives are miserable and hard to imagine.'

I think of Samuel Selvon's *The Lonely Londoners*. Elsewhere Hao goes on to relay the initial genesis of *Folding Beijing*:

> It began with an image. One morning, I was shopping at a street market just like the one described at the start of the story: Crowded, chaotic, dirty, lively, full of cheap goods piled up everywhere. Everyone was devoted to the task of bargaining. I thought then that Beijing was a city divided into multiple groups who did not interact at all in daily life. They had completely different lifestyles, habits, and socializing spaces —in fact, they rarely even met.
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> My friends and I belonged to Second Space. Due to some measure of talent and luck, we had good educations and comfortable jobs, and we could see the results of our efforts and dream of advancement. But this city also had two other groups we usually didn't get to see. One group consisted of the mysterious, powerful figures who were rarely seen in public but who could decide the fate of the city, even the entire country. The other group consisted of the laborers who lived in the nooks and crannies and borders of the city. They didn't have the money to shop at the places we frequented—indeed, they couldn't even afford to come to where we lived; yet, they, in their multitudes, supported the functioning of this giant city. The image from that morning spun out into a whole story: The economic reality was the logical engine, and the physical concept animated the image.

Notes

Vertical Cities: Representations of urban verticality in 20th-century science fiction literature (Hewitt and Graham, 2014)

It requires little excavation to uncover the fascination that vertical urban structures have held for modern architects and plan- ners. The Italian Futurist Antonio Sant'Elia (2009 [1914]: 200), for example, envisioned cities where 'elevators [would] swarm up the facades like serpents of glass and iron' and where the street would 'no longer lie like a doormat . but plunge several storeys deep into the earth'. A few years later, the archi- tect Auguste Perret imagined a Paris of the future with 'avenues 250 meters wide and on either side houses that reach to the clouds' (1920, quoted by Passanti 1987: 56). While Le Corbusier – an iconic figure whose preoccupation with verticality and aeriality have cast long shadows in modern urban and architectural history – expressed his ambition to remake the urban landscape of the future as 'a vertical city . which will pile up the cells which have for so long been crushed on the ground, and set them high above the earth, bathed in light and air' (1987 [1927]: 280). Interest in the development of the vertical urban axis has, therefore, been a central strand of the modern architectural imagina- tion and alongside this imaginative preoccu- pation, supported by the engineering innovations characteristic of the period, pro- cesses of urbanisation have also extended over the vertical axis.

Appearing 65 years after Wells's specula- tive engagement with the capital was pub- lished in novel form, JG Ballard's High-Rise (2006 [1975]) offers a second iconic piece of writing about the nature of metropolitan urbanity. The context with which Ballard engaged was significantly altered from that which immediately framed The Sleeper Awakes. From 1956, in a deliberate political attempt to precipitate high-rise building, subsidies for flats in blocks over 15 storeys high were three times more than those for other forms of affordable housing and, until the Ronan Point disaster 12 years later, tower blocks were built rapidly in major cities across Britain (Hall, 2002: 241). However, by the 1970s, the high-rise was becoming synonymous with unsuccess- ful mass social housing and carried a raft of negative connotations as the tower blocks built to alleviate housing problems began to degenerate both materially and socially (Glendinning and Muthesius, 1994). Ballard's fictional account of high-rise living was a direct engagement with this deepening trend in urban planning and his exploration of the social implications of high-rise residen- tial building and its material failure explicitly referred to contemporary development. For example, he pointed specifically to the now famous infrastructural and architectural innovation at the Park Hill estate in Sheffield – titling one of his chapters, 'Danger in the Streets of the Sky' – of building walkways outside the front doors of flats that were wide enough for milk floats and thus nick- named 'streets in the sky'.

Vertical: The City from Satellites to Bunkers (Graham, 2016)

With climate change, he argues gloomily, the appeal of air-conditioned citadels in the sky will only grow. "Apartheid atmospheres" – another striking coinage – are here already, he suggests, as the privileged of smoggy China and the sweltering Middle East increasingly retreat into sealed enclaves with processed air. As the global population rises and cities become more crowded, the fabric of urban centres is changing. Nowhere is the phenomenon more pronounced than in China, where a state-orchestrated urbanisation drive has prompted a megacity building bonanza characterised by skyscrapers and sprawl.

The dramatic experiments in skyscraper construction and urban planning in the one-party state will, increasingly, hold lessons for cities the world over. As a response to the dilemma of how to build densely while retaining liveability, the Shanghai Tower may be the closest architects have yet come to creating a "vertical city". Designed by the American firm Gensler, the building forms a spiralling trunk that takes the amenities of the horizontal city block – homes, shops, offices, galleries, multiplexes – and stacks them on a vertical plane.

Its "sky gardens" – around one-third of the site is green space – will showcase flora from around China "sustainable vertical urbanism", or the linkage of clustered tall buildings with sky bridges and elevated plazas replicating the ground floor in the air. A building should be responsive to topology as in vernacular architecture – Calgary and Khartoum should look different – and be designed in consideration of the buildings around it. urbanisation a "huge engine" for growth as the government attempts to restructure its economy away from a reliance on exports and investment to one based on domestic spending.

Hollow Land: Israel's Architecture of Occupation (Weizman, 2007)

Given the architecture of Israel's settler colonialism, the decolonisation of Palestine will require not ever more 'creative' volumetric arrangements and complicated lines of three-dimensional partition, but rather, the fundamental 'delamination' of Israel's vertical apartheid. Political delamination would need to pry apart and flatten the inflated structure - the overlapping jurisdictions, separate legal sysems, and modes of topographic and architectural separation - as well as acknowledge a common (not a singular or unified) history that includes the Nakba.

The Occupied Palestinian Territories could be seen as such.a frontier zone [where] settlers seem to inhabit the head of a pin. On it, as Sharon Rotbard mentioned, 'the most explosive ingredients of our time, all modern utopias and all ancient beliefs [are contained] simultaneously and instantaneously, bubbling side by side with no precautions.'

In these corners - the ‘kissing points’ - where the border between the supposed territories of Israel and Palestine changed from a single-dimensional line to a non-dimensional point - planners proposed to embrace fully the third dimension, and maintain connections between the fragments of Israeli and Palestinian Territories via tunnels or bridges.

These massive infrastructural systems, drawing provisional borders through sovereign three-dimensional spaces, are the physical infrastructure of a unique type of political space, one desperately struggling to separate the inseparable, by attempting to multiply a single territorial reality and create two insular national geographies that occupy the same space, but crashing, as Israeli historian Mere Benvenisti remarkably put it, ‘three dimensions into six: three Israeli and three Palestinian.’

The Stack: On Software and Sovereignty (Bratton, 2015)

The Marxian model of base and superstructure provided another verticalized image of social totality, whereby economic structural causality flows bottom-up, from foundational technical processes of production, valuation, and relations in the base, to their ultimate expression in cultural and political institutions, as superstructure. Marx wanted to model historical cause and effect, but history is full of images of society organized instead into static stratified layers of arbitrary hierarchies (Albrecht Dürer’s 1515 woodcut The Triumphal Arch of Maximilian I comes to mind). Many contemporary technical systems work on stack principles, including smart grids that segment a power layer, below a communications layer, below optimization and applications layers.

Stack architectures are also conceptual strategies for design, not just for description, and they are not only conceptual architectures, they are models for actual architec- ture as well. Le Corbusier’s Five Points toward a New Architecture is a strong stack, as embodied in Villa Sovoye and the vertical platform for five essential but undetermined programs.14 The building may be “a machine for living in,” but the Five Points stack is the machine for making machines. Constant’s ever-changing New Babylon speculative urban system was redesigned again and again over the span from Sputnik to the OPEC embargo. It changed shape constantly, but one durable characteristic was the notion of a new city designed on top of the old one in two exclusive stacked layers.

The horizontal skyscraper OMA’s (Office of Metropolitan Architecture) 1972 conceptual project, Exodus: Voluntary Prisoners of Architecture, in which residents pass from layer to layer as they move through the dis- crete biopolitical stages of their lives.15 Other architectural stacks are even more graphi- cally explicit, such as Gordon Matta-Clark’s slices through stories of buildings, Robert Smithson’s concentric-layered world maps, and the stratified landscapes of MVRDV’s Hannover 2000 exposition pavilion that stacked and segmented artificial nature and program into a hyperdense world-in-a-box.

In dense cities, enclaves are more vertical than horizontal and branded according to discreet (and discrete) address coordinates. In New York, One57 (Christian de Portzamparc, architect) and 432 Park Avenue (Rafael Viñoly) towers near Central Park, and 56 Leonard in Tribeca (Herzog & de Meuron) are just a few options. The demos of the modern city presents certain difficulties not suffered by planners of the orbiting Elysium, how- ever, as evidenced by concern in New York over so-called “poor doors” that would filter high-income from low-income residents of the same Westside tower, One Riverside Park. Readers of J. G. Ballard’s novel High Rise (1975) will also note the tendency for communities that live within the same building envelope, but strongly differentiated by status, to lurch inexorably toward tribal violence (and hence have a negative impact on unit resale value across the board).

The design of protocols, platforms and programs can be as speculative as needed, but the generativity of standards remains. Protocological interoperability works not only to componentize tangible things, but also to represent undetermined relations between things, events, and locations and to provide the means to compose that traf- fic in advance. In some cases, these are formal notational systems, and the most inge- nious are not always the most widely adopted, and sometimes those adopted become so naturalized that they disappear into the fabric.7 By design, systemic standardiza- tion is enforced by fixed physical measurement and procedure, and perhaps here most particularly, the paradoxical tendency of platforms to control and decontrol at the same time is most evident. For example, the formal urban grid in a major city is for the most part rigid and inflexible, but precisely because of this linear and universally authoritarian topography, it affords both maximum tumult of dynamic horizontal interchange in the street plan as well as vertical recombinant programmatic complex- ity in the skyscrapers that pop up in each of its cells (more on this in the City layer chapter)

Stacks are a kind of platform that also happens to be structured through vertical interop- erable layers, both hard and soft, global and local. Its properties are generic, extensible, and pliable; it provides modular recombinancy but only within the bounded set of its synthetic planes. It is an autogenerative parametric topography, but one that grows precisely through an initial subdivision of technologies into planar layers and then through an autocratic consolidation and rationalization of these through internal interfaces and protocols. As for any platform, that consolidation is driven less from centrally planned legal prescription than through the

algorithmic conduction of self- directed behaviors by free-range Users. The Stack discussed in the following chapters is a vast software/hardware formation, a proto-megastructure built of crisscrossed oceans, layered concrete and fiber optics, urban metal and fleshy fingers, abstract identities and the fortified skins of oversubscribed national sovereignty. It is a machine literally circumscribing the planet, which not only pierces and distorts Westphalian models of state territory but also produces new spaces in its own image: clouds, networks, zones, social graphs, ecologies, megacities, formal and informal violence, weird theolo- gies, all superimposed one on the other.

Foams, Spheres Volume III Plural Sphereology (Sloterdijk, 2016)

Vertical Serialism // To approach the phenomenon of the apartment, one must perceive its close connection to the principle of the series, without which the transition of construction (and production) into the era of mass fabrication and prefabrication would have been inconceivable. Just as, according to El Lissitzky, constructivism is the interchange station between painting and architecture, serialism is that between elementarism and social utopianism. It is serialism, which regulates the relationship between the part and the whole through precise standardization, enabling decentral production and central assembly, that holds the key to the relationship between the individual cell and the cell formation which is characteristic of modernity. Just as the working-out of the cell takes into account the spirit of analysis by returning to the elementary level, building houses on the basis of such elements constitutes a combinatorics, or rather a form of 'organic construction' - with the goal of producing architecturally, urbanistically and economically sustainable ensembles of modules.

The great variety of forms with which modern architecs responded to the provocation of modular building shows that the stacking of numerous cellular units in a single architectural complex was always intended as more than a fortuitous or mechanical addition of elementary units. The vertical agglomeration of capsule units is here expanded into an aesthetic phenomenon in its own right.

Flickering in the Dark: The Compressed Tissue of the Urban (Simone, 2017)

The complex entanglements among household composition, entrepreneurial networks, financial reciprocities and dependencies, the dense fabric of everyday living arrangements, the profusion of tipping points, the multiplicity of risks and impulsive maneuvers, and the intensive scrutiny of individual behavior coupled with the indifference largely shown to individualized needs all make for a thick social meshwork that is difficult to alter and reweave.

Change is conceptualized, marketed, and consumed largely in terms of altering the built environment. Dense, heterogeneous districts of inextricable residence, commerce, and production have difficulty enduring. They are full of massive infrastructural deficits, only intermittent supply of basic urban services, and a shortage of public institutions of all kinds. While there are no technical prohibitions from making substantial in situ improvements in the physical environment, there is something in how the solidity of small attainments, the thickness of socio-economic fabric, and the weight of an overused physical base intertwine that provides a surface of protection by keeping things the way they are. This intertwining of thickness, solidity, and weight embodies the conditions of precluded transformation, but also a motility that constantly heads somewhere inch by inch without specific destination, creating a sense for residents that things are moving. Complex recalibrations do take place.

In a context of marked inequality, an accelerated individuation of living and work spaces and the re-ordering of density into larger residential mega-blocks will leave many residents further behind. So will the rapid transition to a service economy or the strict adherence to regulatory frameworks that specify how particular spaces are to be occupied and used. There is a risk in changing the built form of places too quickly because the life inside does not change as quick; it doesn't know where to go or how to be different and still endure. Change, in this sense, tends to mean working longer hours, taking on more debt, and living at far remove from the city, all as an individual.

This is a contaminated tissue, full of the grounding of entities into a rush of particulates. Like both composts and superhighways, it constitutes a surface able to hold almost everything in their repetitive and improvised maneuvers, even if what it holds is increasingly indiscernible. But whatever care does take place increasingly does so in situations of compression and ambivalence. Taking a cue from Alexander Galloway, urban tissue is compressed, and something made up of many different realities and potentials. Compression is about asymmetric encounters, where things operate in the same space but which have no obviously discernible relationship with each other.

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